

CLAIMS (AMENDED 10.1.1999)

1. Method for location updating of a wireless terminal (TE) in a communications system comprising a number of Private Branch Exchanges (HPBX, VPBX) and at least one telephone exchange (EXC) and being connected to a Public Integrated Services Network (PISN) and an intelligent network;

in which method the terminal (TE) sends (2A-1, 2B-1) in connection with a call setup a location updating message to a PBX and the PBX sends (2A-2, 2B-2) a call setup message to the exchange (EXC);

characterized in that, additionally in the method,

- the PBX adds (2A-2, 2B-2) the location information and the identity of the terminal (TE) to the call setup message;

- the EXC sends a node (SCP) of the intelligent network a service request (2A-3, 2B-3), including the location information and the identity of the terminal (TE); and

- the node (SCP) of the intelligent network adds the location information of the terminal (TE) to the subscriber number, preferably to the MSISDN number, of said terminal (TE).

2. Method according to claim 1, characterized in that in case of an incoming call (3A-1) to the terminal (TE):

- the exchange (EXC) sends (3A-2) the node (SCP) of the intelligent network a service request comprising the subscriber number, preferably the MSISDN number, of the terminal (TE);

- the node (SCP) of the intelligent network returns (3A-3) the location information of the terminal (TE) to the exchange (EXC);

- the exchange (EXC) establishes (3A-4) a connection with the PBX indicated by the location information of the terminal (TE), which PBX sets up (3A-5) a call with said terminal (TE).

3. Method according to ^{claim 1} ~~claim 1 or 2~~, characterized in that at least one Home Private Branch Exchange (HPBX) is allocated to each terminal (TE), which HPBX notices in case of an internal call that both the calling and the called subscriber are in the area of the same PBX, and in this case the HPBX sets up a call without any service request to the intelligent network.

4. Method according to any one of the ^{claims} ~~claims 1 to 3~~, characterized in that the PBX (HPBX, VPBX) reserves for the terminal (TE) a

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roaming number (CLG#ROAM#) used as location information of the terminal (TE).

5. Method according to claim 4, characterized in that a fixed area from a number space of the PBX (HPBX, VPBX) in question is reserved for roaming numbers (CLG#ROAM#) in the numbering plan.

6. Method according to ^{claim 1} ~~any one of the claims 1 to 5~~, characterized in that the terminal (TE) is a terminal of the DECT system and the identity of the terminal (TE) is IPUI or IPEI.

7. Method according to claim 6, characterized in that the method uses DSS.1 signalling protocol and the location information is positioned in a FACILITY or USER_TO_USER information element.

8. Private Branch Exchange (HPBX, VPBX), comprising:
first interface means for interfacing to an exchange (EXC/SSP) having a service switching point (SSP) for interfacing to a service control point (SCP) of an intelligent network; and

second interface means for interfacing to base stations (DECT-FP) of a telephone system supporting wireless terminals (TE), each terminal having an associated identity (IPUI, IPEI);

characterized in that the PBX is adapted to, in response to a location updating of one of said terminals (TE):

assign location information (EI) for said terminal (TE) in question;

send said location information (EI) to said exchange (EXC/SSP) in a message (2A-2, 2B-2) which is suitably formatted so that said Service Switching Point re-sends said location information to said service control point (SCP).

9. Private Branch Exchange (PBX) according to claim 8, characterized in that the location information of a terminal (TE) is a roaming number (CLG#ROAM#), which is preferably reserved from the number space of said PBX.

10. Arrangement for location updating of a wireless terminal (TE) in a communications system, the arrangement comprising a number of PBXs (HPBX, VPBX) and being in connection with a Public Integrated Services Network (PISN) and an intelligent network;

in which arrangement the terminal (TE) comprises means for sending a location updating message (LOC_UPD_REQ) in connection with a call setup to a PBX and the PBX comprises means for sending a call setup message (SETUP) to an exchange (EXC);

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characterized in that additionally

- the PBX comprises means for allocating location information to the terminal (TE) of the wireless network;

5 - the PBX comprises means for adding the location information and the identity of the terminal (TE) to the call setup message (SETUP);

- the exchange (EXC) comprises means for sending the location information and the identity of the terminal (TE) to a node (SCP) of the intelligent network in connection with a service request (INVOKE);

10 - the node (SCP) of the intelligent network comprises means for adding the location information and the identity of the terminal (TE) to the subscriber number, such as a MSISDN number, of the terminal (TE).

11. Arrangement according to claim 10, characterized in that the location information of the terminal (TE) is a roaming number (CLG#ROAM#) allocated by the PBX.

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